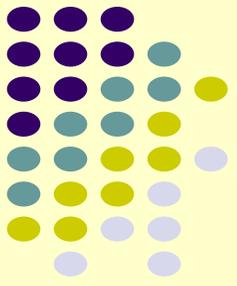




FROM A CURMUDGEONS PERSECTIVE

**We have a PUBLIC HEALTH EPIDEMIC –
with a certain cost of more lives than recent “pandemics”**

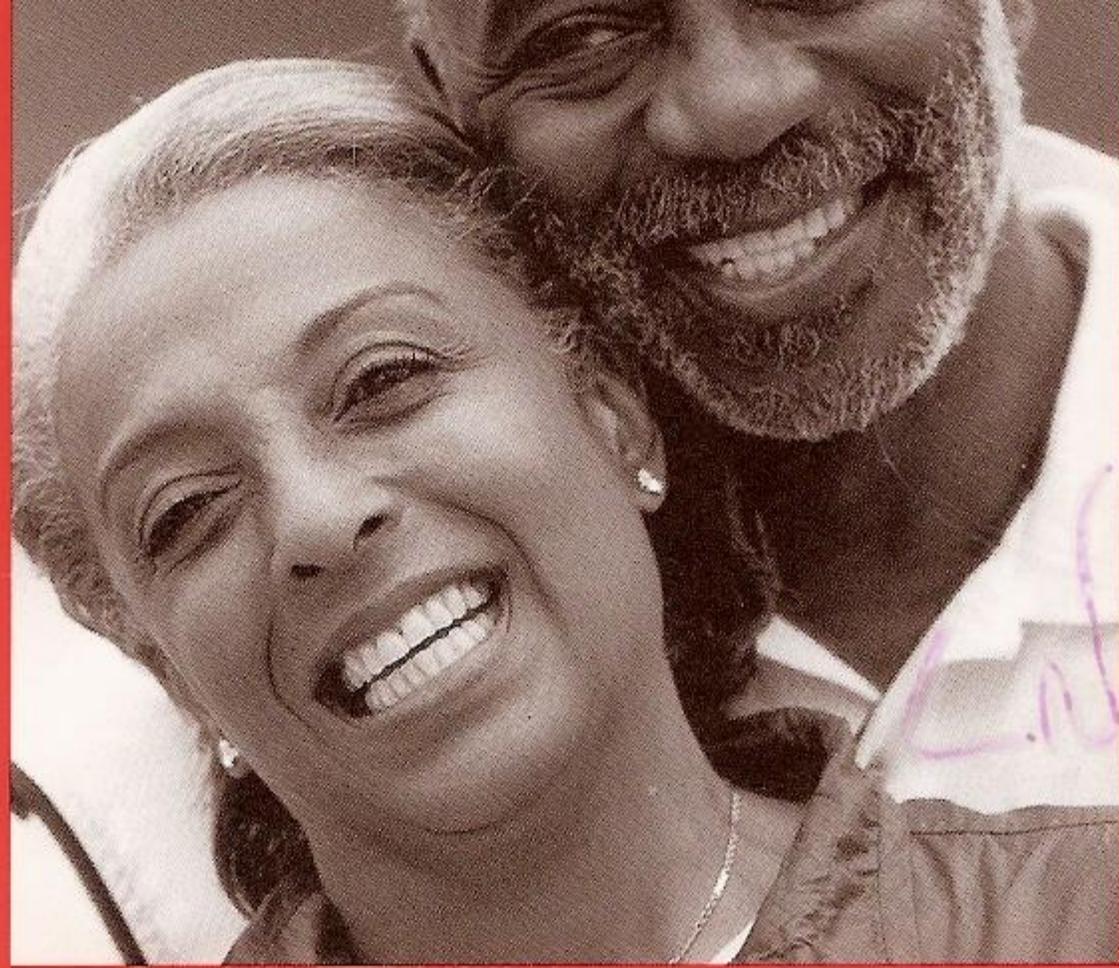


**WORLD HEALTH
ORGANIZATION**

**1.2 million people
will die as a result of
road crashes this
year –**

**more than 3200
deaths each day**

**ROAD SAFETY IS
NO ACCIDENT**



At the Crossroads

A Guide to What's in It for You

If you design for the Old

You include the young

**If you design for the
Young**

You exclude the Old

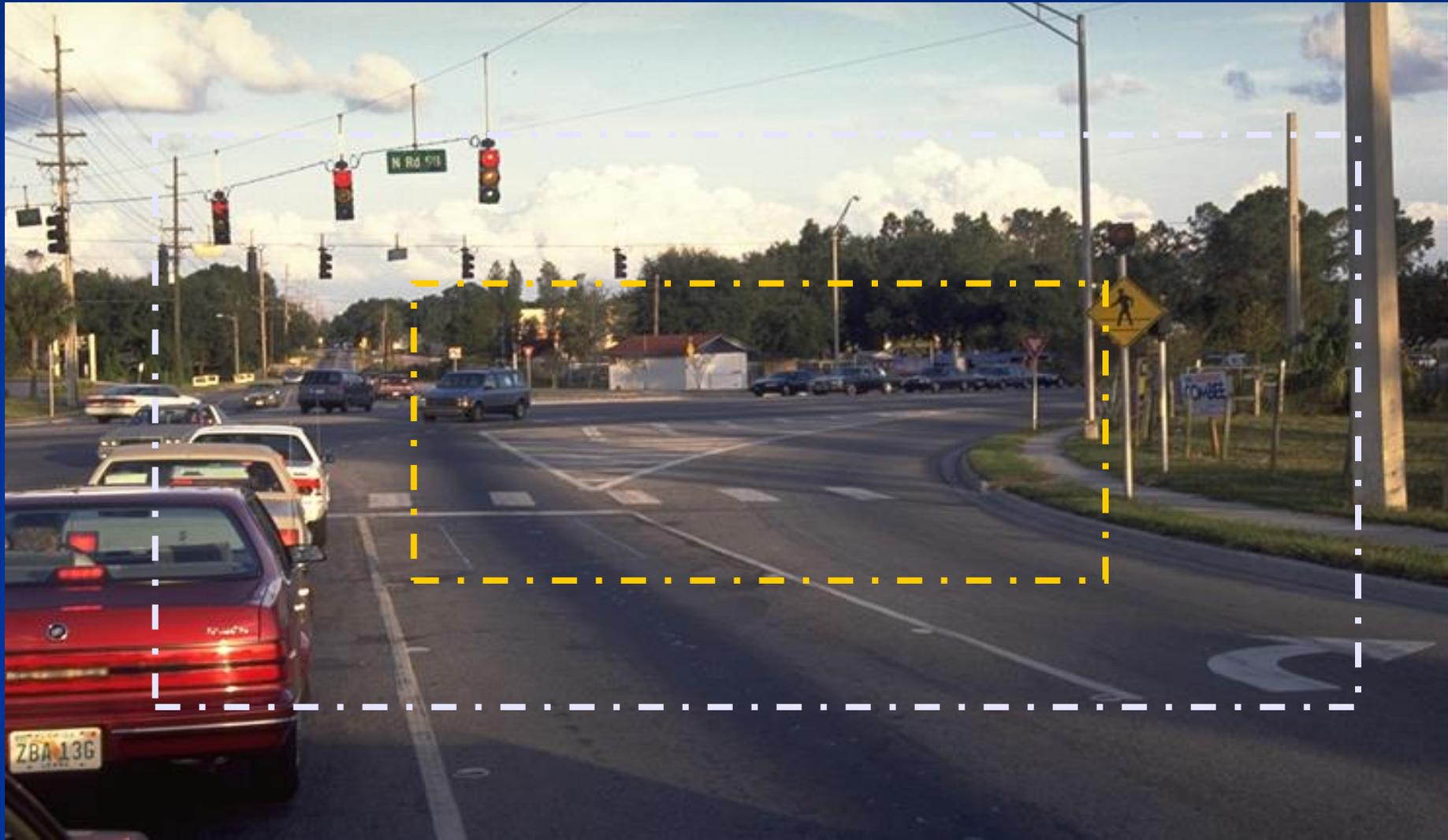


*Dr. Bernard Isaacs, Renowned
Geriatric Physician and Author*

OPTIMIZE SAFETY INVESTMENTS

- ▣ REQUIRES SAFETY INVESTMENTS IN LOCAL ROADS .

Diminished Visual Capabilities Attentional Window



Advance Signing



Researchers, for decades
have been reporting
the most difficult maneuver
for an older driver:
negotiating an intersection.

YOUNG & ELDERLY DRIVERS

Vision and Cognition Challenges

Peripheral Vision is important to making judgements about placement, speed, and gaps in moving traffic

- Young drivers are still developing peripheral vision
- Along with other vision changes, older drivers also begin to lose peripheral vision

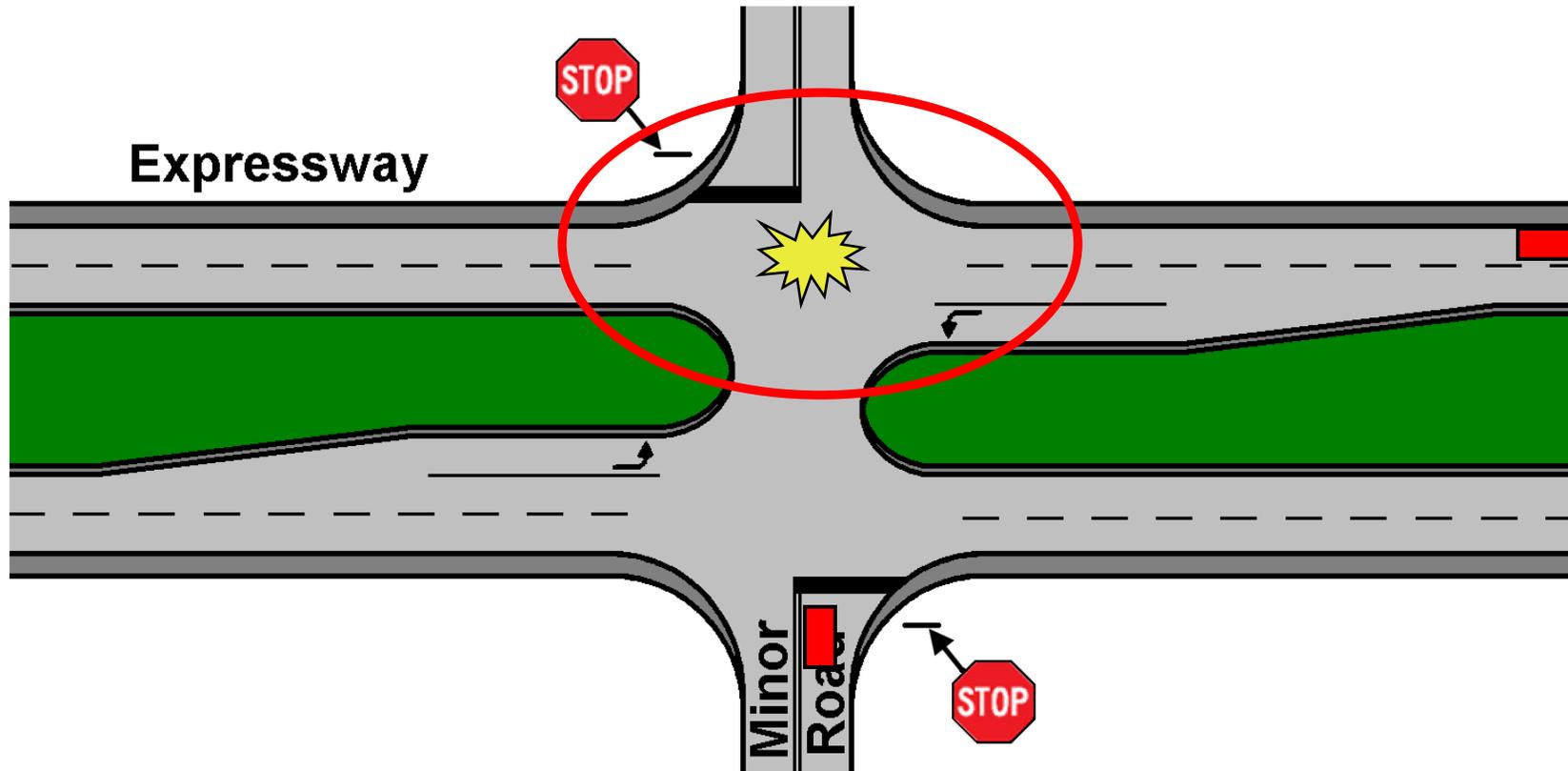
Offset Left Turn Lanes



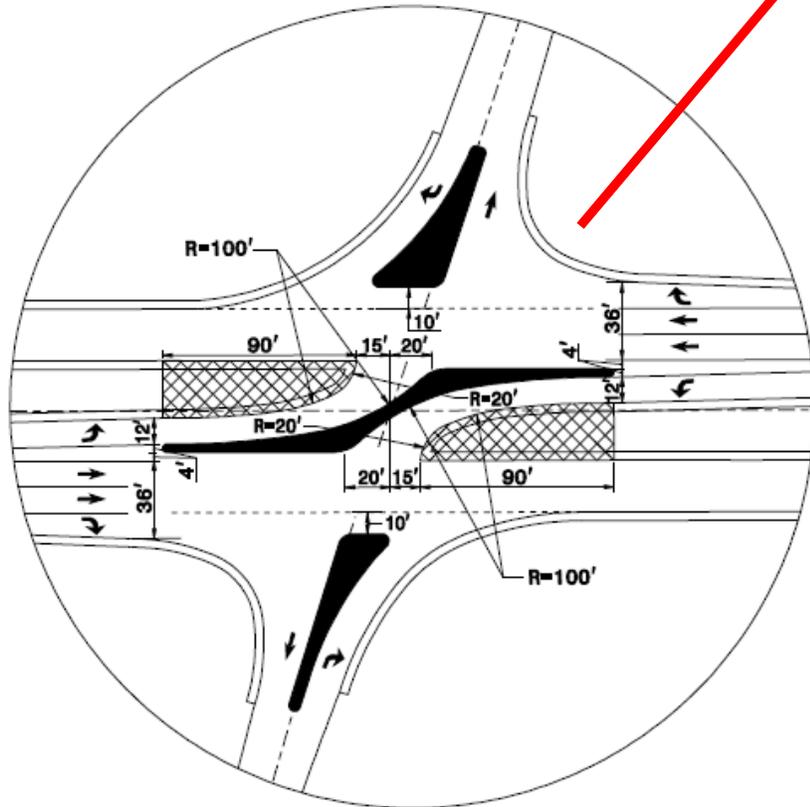
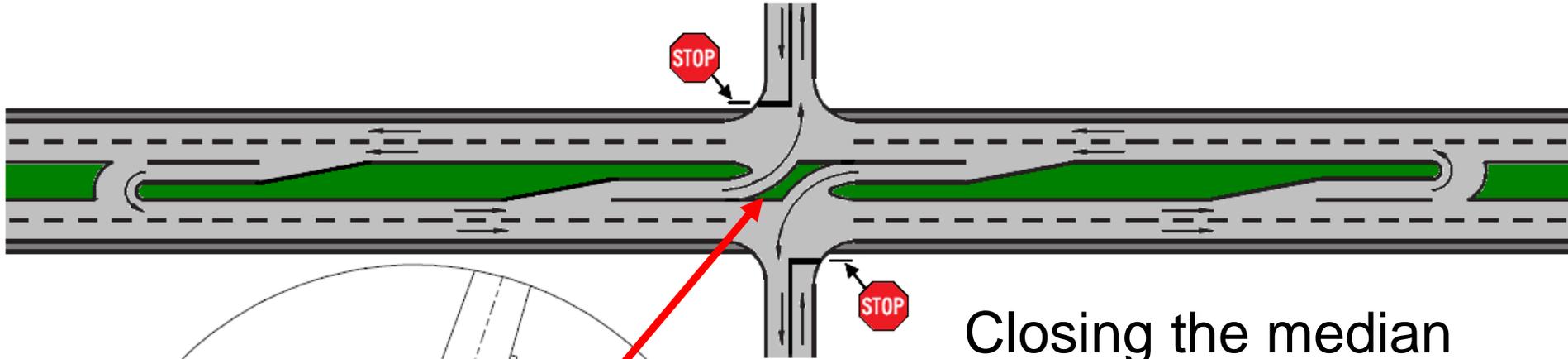
DEFINING THE PROBLEM

With Traditional Expressway Intersection Design

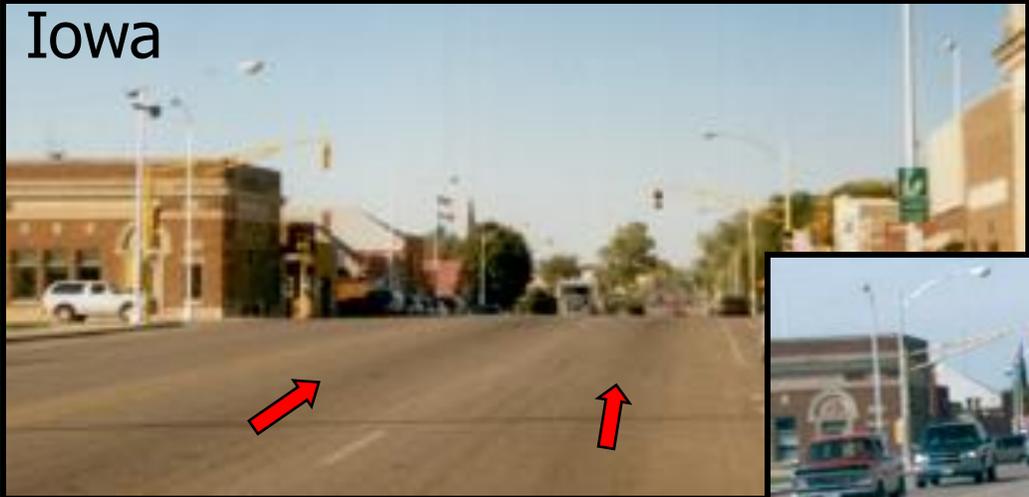
- Typical Problem: Far-Side Right-Angle Collisions



THE J-TURN INTERSECTION



Closing the median eliminates direct crossing and left-turn maneuvers from the minor road, thus **preventing far-side right-angle collisions.** *Emergency vehicles can still cross median.*



4-lane to 3-lane conversion



**IA - Total
Crash Reduction**

All ages	24%
65+	28%

14
corridors

8
corridors

**MI - Total
Crash Reduction**

All ages	26%
65+	37%

National Report

Who is doing this and how much?

▪ States

- Minnesota DOT - 58 corridors
- Michigan - 125 corridors
- Iowa DOT - 25 + stopped counting
- a few: AK, CO, IN, MT, OR, WI
- none: AR, MA, PA, WV

Cities

- NYC - 460 corridors
- San Fran – 50 corridors
- Seattle - 34 corridors
- Portland(OR) - 11 corridors
- Phoenix - 14 miles

**FHWA Proven Safety
Countermeasure**

READING SIGNS AND PAVEMENT MARKINGS

A 50 YR OLD NEEDS 5 TIMES AS MUCH LIGHT AS A 20 YR OLD TO READ A SIGN

A 65 YEAR OLD NEEDS 10 TIMES AS MUCH LIGHT

The Rumble “Stripe”

New markings at night,
wet pavement

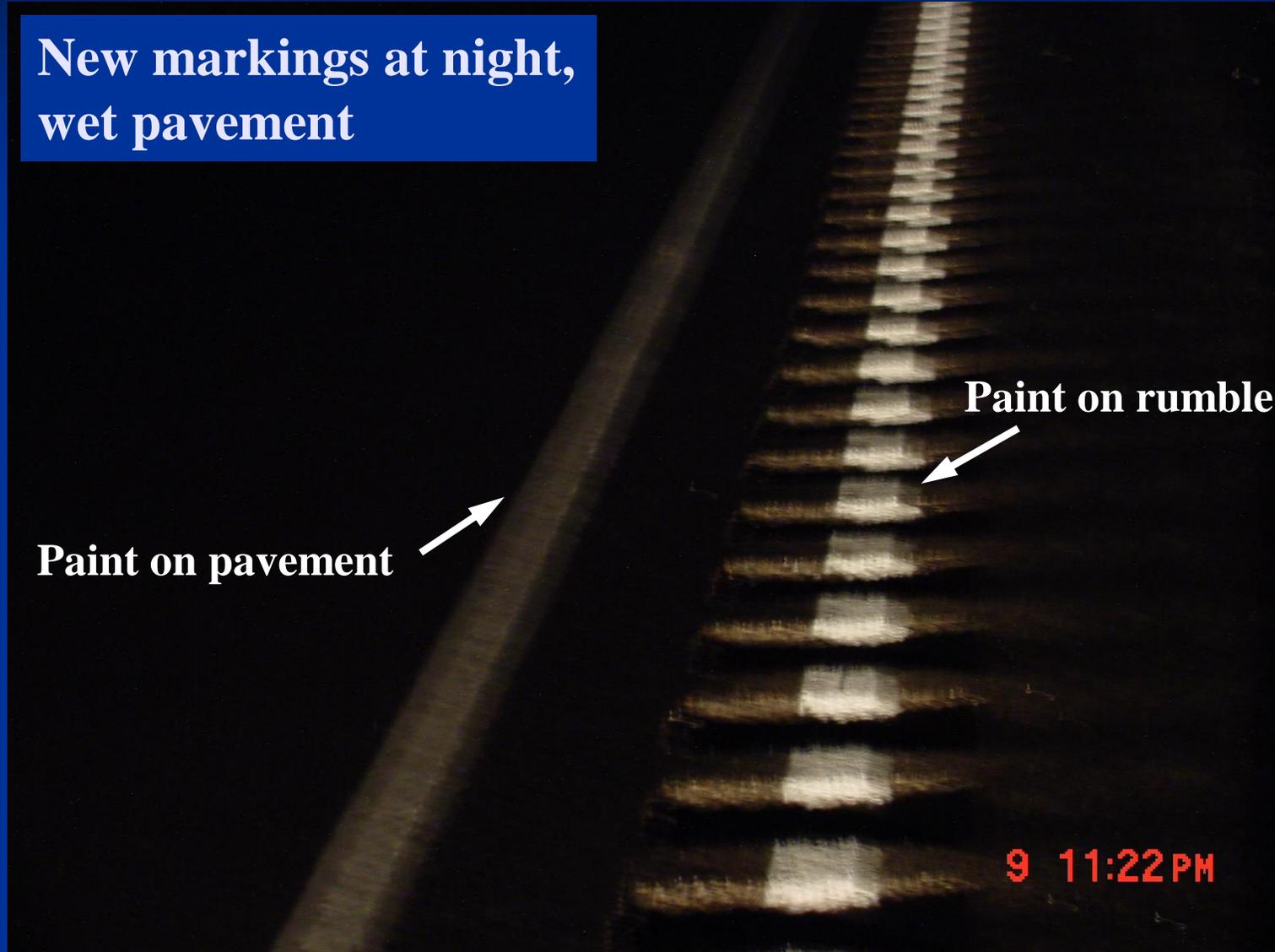
Paint on pavement



Paint on rumble



9 11:22 PM



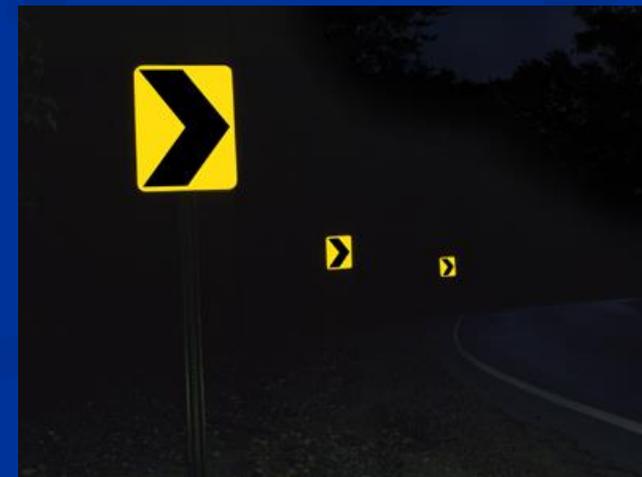
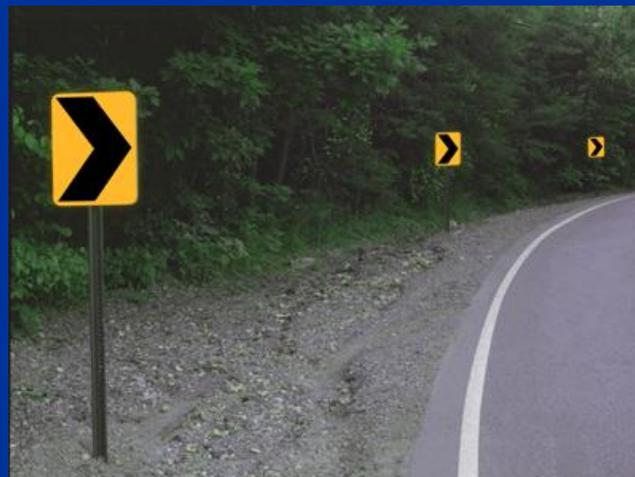


Improved Brightness Through Fluorescence

**Ordinary
Yellow
Warning
Signs**



**Fluorescent
Yellow
Warning
Signs**



US-6 at Oasis Road Curve

November 2000 – Upgraded chevron and advance curve warning signs with bigger, brighter signs.

- 40% raw reduction in all crashes
- 57% reduction in night/dark crashes
- Significant reduction in crash severity

Period	Total Crashes	Ave AADT	Crash Rate	Fatalities	MAJ	MIN	POSS/UNK	PDO
1995-2000 (6 years)	20 crashes	3460	2.71/MEV	1	3	7	7	8
2001-2007 (7 years)	14 crashes	3880	1.45/MEV	0	1	4	8	3

•All crashes in 2000 occurred prior to the countermeasure's install date.
•Crash reports were pulled to ensure that crashes in the above table were in fact related to the curve.

1995-2000
10 Dark/10 Day
4 Wet/13 Dry/2 Snow-Ice

2001-2007
4 Dark/1 Dawn/9 Day
6 Wet/7 Dry/1 Snow-Ice



SYSTEMIC SAFETY INVESTMENTS

- ▣ “We must make a conscious effort to systematically improve the safety design features of our nations highways”
- ▣ “This is where the real lasting safety pay off will occur”
- ▣ Howard Anderson, FHWA Retired ---1978 !! (45 yrs ago)

Centerline Rumble StripE



Safety Edge

Safety Edge

Paving technique where the interface between the roadway and graded shoulder is paved at an angle to eliminate vertical drop-off.

Very low cost:

The technique requires a slight change in the paving equipment (approximately \$1,200).

Research between 2002–2004 shows that **pavement edges may have been a contributing factor in as many as 15–20% of ROR crashes**. When a driver drifts off the roadway and tries to steer back onto the pavement the action may result in over-steering. Safety Edge minimizes that occurrence by reducing the vertical angle between the shoulder and pavement.



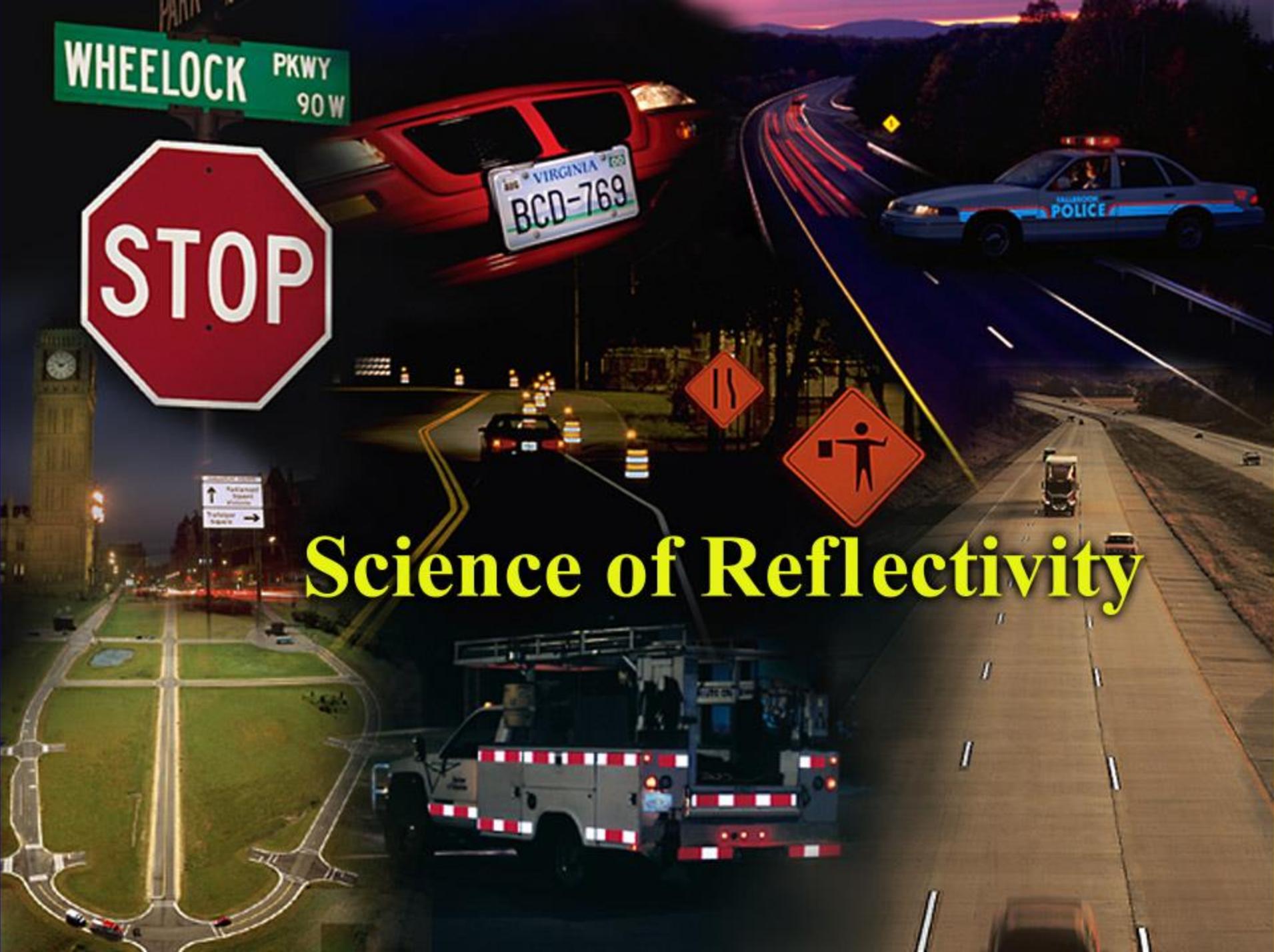
More information at:

http://safety.fhwa.dot.gov/roadway_dept/pavement/fhwasa09023/

Older Stop Sign Viewed With New Headlights



← Viewed
with normal
headlights



Science of Reflectivity

Fluorescent Orange for Work Zones



WHAT'S BUGGING TOM

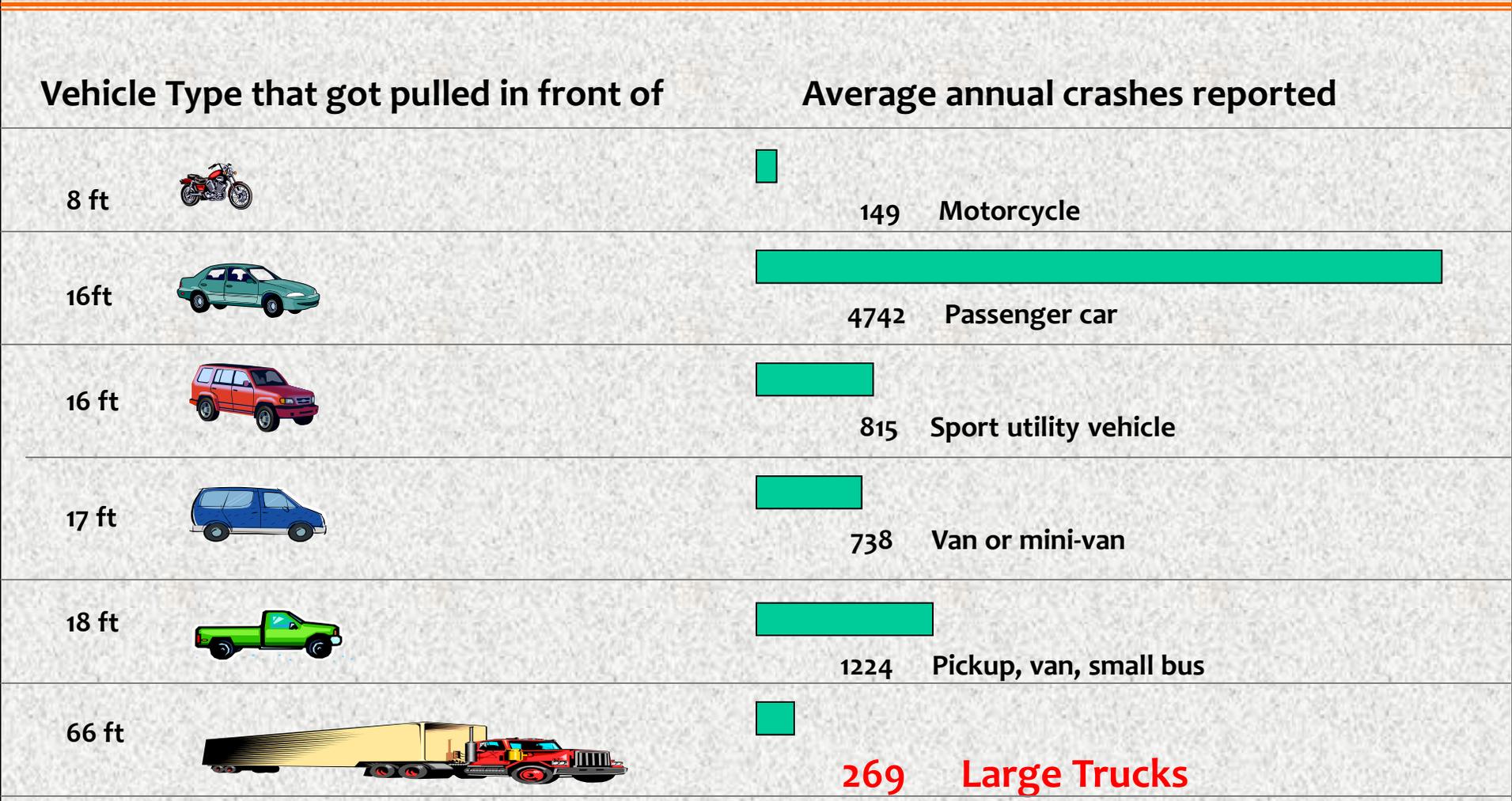


Sharing the Road . . .
Safety Tips for Motorists & Motorcyclists



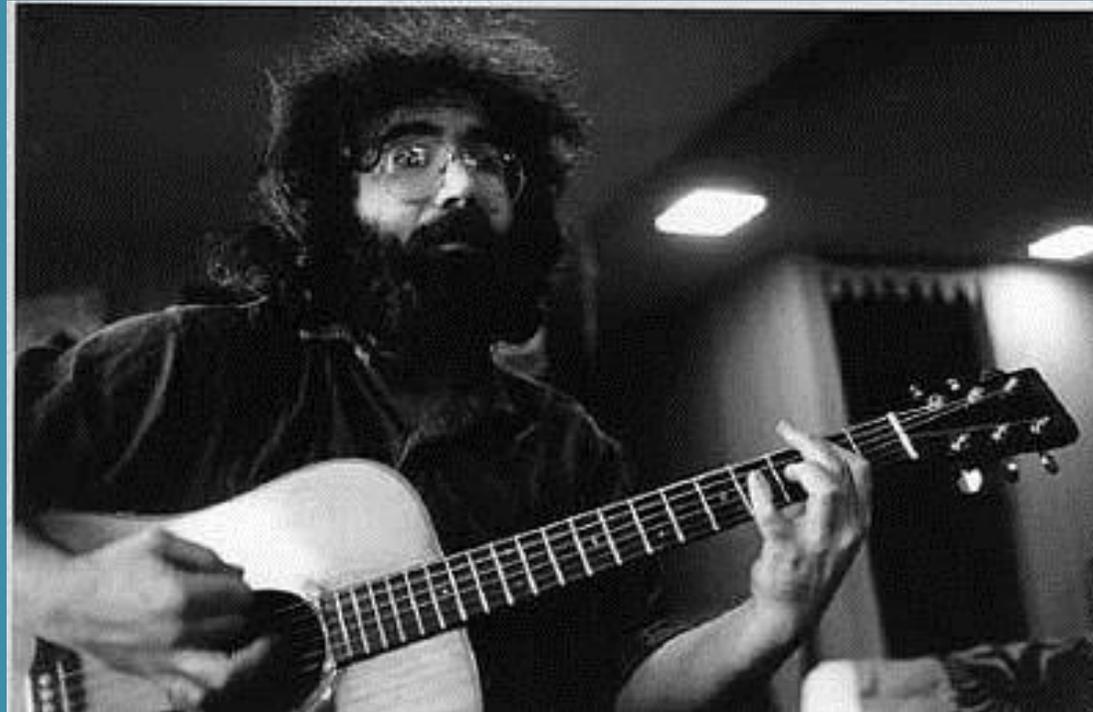
Failure To Yield Right-of-Way Crashes

2004 -2008
5-year average per/year



This depicts crashes involving a causal driver who failed to yield the right-of-way to another vehicle at an intersection

Jerry Garcia (Grateful Dead) Speaking for All Baby Boomers...



“Somebody’s gotta do somethin’; its just incredibly pathetic its gotta be us!”